

18. (New) A process for the preparation of a polymeric absorbent useful for gelling organic liquids consisting essentially of:

- a) mixing one or more monomers, wherein the monomer contains a hydrophobic group and hydrophilic groups in a ratio of hydrophobic to hydrophilic groups of 1.0:0.1, with a cross linking agent and a free radical initiator;
- b) subjecting the mixture to polymerization;
- c) removing the polymer;
- d) crushing the polymer to obtain a polymer powder;
- e) washing with a solvent;
- f) drying the polymer to remove unreacted monomers; and swelling the polymer in an alcohol to obtain the polymeric absorbant.

19. (New) The process as claimed in claim 18, wherein the one or more monomers are polymerized in the presence of a solvent.

20. (New) The process as claimed in claim 18, wherein the one or more monomers are polymerized in the presence of a transition metal source.

21. (New) The process as claimed in claim 20, wherein the transition metal source is selected from the group consisting of metal, metal salts, and metal complexes of cobalt, chromium, copper, manganese and iron.

22. (New) The process as claimed in claim 21, wherein the transition metal source is selected from the group consisting of chromium trioxide, cobalt chloride, manganese hydroxide and ferric oxide.

23. (New) The process as claimed in claim 20, wherein the transition metal source is in an amount between 10 ppm to 250 ppm.

24. (New) The process as claimed in claim 19, wherein the solvent is selected from the group consisting of water, alcohol, 1,4-dioxane, dimethyl sulfoxide, dimethyl formamide, benzene, xylene and mixtures thereof.

25. (New) The process as claimed in claim 18, wherein one or more monomers are of

the formula $\text{CH}_2=\text{CH}-\text{R}_1-\text{R}_2-\text{R}_3$ wherein R_1 and R_3 are hydrophilic groups and R_2 is a hydrophobic group.

26. (New) The process as claimed in claim 25, wherein R_1 and R_3 are each selected from the group consisting of amide, ester, sulfonic acid, carboxylic acid, hydroxyl functional groups and mixtures thereof.

27. (New) The process as claimed in claim 25 wherein R_2 is selected from the group consisting of primary, secondary or tertiary aliphatic saturated or unsaturated hydrocarbons selected from acrylamides and derivatives thereof listed in the Table below:

Acrylamide derivative
2-acrylamideo 2 – methylpropane sulfonic acid N – tertiary butylacrylamide N – octylacrylamide Acrylic acid N – propylacrylamide N – isopropylacrylamide
Ester derivative
2 – hydroxyethylmethacrylate Methylacrylate
Copolymers
2 – acrylamido 2 – methylpropane sulfonic acid copolymers with N – alkylacrylamides
Amino acids
Acryloyl – 4 – aminobutyric acid Acryloyl – 6 – aminocaproic acid Acryloyl – 11, ω – amino acid Acryloyl L – leucine Acryloyl L – glycine Acryloyl L – proline Acryloyl o – alanine
Hydroxyl group
Polyethylene glycols Polyethylene oxide

and mixtures thereof.

28. (New) The process as claimed in claim 18, wherein the one or more monomers in the polymerization mixture is between 1 mole % to 99 mole %.

29. (New) The process as claimed in claim 27, wherein the one or more monomers in the polymerization mixture is between 9 mole % to 91 mole %.

30. (New) The process as claimed in claim 18, wherein the cross-linking agent is selected from an acrylic, methacrylic, styrenic group, or a mixture thereof.

31. (New) The process as claimed in claim 30, wherein the cross-linking agent is selected from the group consisting of N, N-methylene bisacrylamide, ethylene glycol dimethacrylate, ethylene glycol diacrylate, trimethylol propane triacrylate, trimethylol propane trimethylacrylate, divinyl benzene and mixtures thereof.

32. (New) The process as claimed in claim 31, wherein the cross-linking agent is selected from N, N-methylene bisacrylamide and ethylene glycol dimethacrylate.

33. (New) The process as claimed in claim 18, wherein the mole percent of the multifunctional monomer is in the range of 0.1 mole % to 40 mole %.

34. (New) The process as claimed in claim 18, wherein the mole percent of the multifunctional monomer is in the range of 1 mole % to 30 mole %.

35. (New) The process as claimed in claim 18, wherein the mole percent of the multifunctional monomer is in the range of 5 mole % to 20 mole %.

36. (New) The process as claimed in claim 18, wherein the free radical initiator is selected from the group consisting of azo groups, peroxides, hydroperoxides, persulphates and mixtures thereof.

37. (New) The process as claimed in claim 36, wherein the free radical initiator is selected from azo and persulphates.